

Defluorinated Phosphoric Acid 68% Feed Grade

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Defluorinated Phosphoric Acid 68% Feed Grade
Product code : M12002

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

JR Simplot Company
P.O. Box 70013
Boise, ID 83707
T 1-208-336-2110

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Corrosive to metals, Category 1	H290	May be corrosive to metals
Acute toxicity (oral), Category 4	H302	Harmful if swallowed
Acute toxicity (dermal), Category 4	H312	Harmful in contact with skin
Skin corrosion/irritation, Category 1A	H314	Causes severe skin burns and eye damage

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H290 - May be corrosive to metals
H302+H312 - Harmful if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

P234 - Keep only in original container
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 - If swallowed: Call a poison center/doctor/... if you feel unwell
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P302+P352 - If on skin: Wash with plenty of water/...
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center/doctor/...
P312 - Call a poison center/doctor/... if you feel unwell
P321 - Specific treatment (see supplemental first aid instruction on this label)
P322 - Specific treatment (see ... on this label)
P330 - Rinse mouth
P362+P364 - Take off contaminated clothing and wash it before reuse

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P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P406 - Store in corrosive resistant container with a resistant inner liner
P501 - Dispose of contents/container to ... specify in accordance with local/regional/national regulations

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
phosphoric acid (7664-38-2)	(CAS No) 7664-38-2		Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314
Proprietary			Not classified
hydrogen fluoride, anhydrous	(CAS No) 7664-39-3		Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1A, H314
hexafluorosilicic acid, conc>=10%, aqueous solutions	(CAS No) 16961-83-4		Skin Corr. 1B, H314

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after skin contact : Immediately call a POISON CENTER or doctor/physician. Specific measures (see ... on this label). Wash with plenty of soap and water. Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed. Harmful in contact with skin.
- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

- Reactivity : Thermal decomposition generates : Corrosive vapours.

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5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Absorb spillage to prevent material damage.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : May be corrosive to metals.
- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing.
- Safe use of the product : Rail cars and/or containers may off gas flourine. Use appropriate respiratory protection.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. Store in a well-ventilated place. Keep cool.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.
- Packaging materials : Store in a corrosion resistant container with a resistant inner liner.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Proprietary		
Not applicable		
hydrogen fluoride, anhydrous (7664-39-3)		
ACGIH	ACGIH TWA (ppm)	0.5 ppm
ACGIH	ACGIH STEL (ppm)	0.5 ppm
ACGIH	ACGIH Ceiling (ppm)	2 ppm
hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)		
ACGIH	ACGIH TWA (mg/m³)	2.5 mg/m³

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phosphoric acid (7664-38-2) (7664-38-2)		
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
ACGIH	ACGIH STEL (mg/m ³)	3 mg/m ³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or face shield. Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Green, viscous liquid.
Colour	: Green
Odour	: Odorless when cold; pungent when hot.
Odour threshold	: No data available
pH	: < 1
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 132 °C
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Strong Alkalies. Metals other than stainless steel. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Reacts violently with strong alkalis producing heat. Contact with many metals may result in severe corrosion attack of the metal and liberation of hydrogen gas. Strong acids. Strong bases. metals. May be corrosive to metals.

10.6. Hazardous decomposition products

High temperatures will liberate phosphorus oxides. fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

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LD50 oral rat	1530 mg/kg
LD50 dermal rat	1260 mg/kg
ATE US (oral)	1530 mg/kg bodyweight
ATE US (dermal)	1260 mg/kg bodyweight

hydrogen fluoride, anhydrous (7664-39-3)	
ATE US (oral)	5 mg/kg bodyweight
ATE US (dermal)	5 mg/kg bodyweight
ATE US (vapours)	0.5 mg/l/4h

phosphoric acid (7664-38-2) (7664-38-2)	
LD50 oral rat	1530 mg/kg (Rat)
LD50 dermal rat	>= 1260 mg/kg bodyweight
LC50 inhalation rat (mg/l)	>= mg/l/4h
ATE US (oral)	1530 mg/kg bodyweight
ATE US (dermal)	1100 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: < 1

Serious eye damage/irritation : Not classified
pH: < 1

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified
Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified

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Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed. Harmful in contact with skin.
Symptoms/injuries	: Causes severe skin burns and eye damage.
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

hydrogen fluoride, anhydrous (7664-39-3)	
LC50 fish 1	107.5 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Fluorine ion)
EC50 Daphnia 1	270 mg/l (48 h; Daphnia magna; Na-salt)
LC50 fish 2	925 mg/l (Gambusia affinis; Fluorine ion)
Threshold limit algae 1	95 mg/l (96 h; Scenedesmus subspicatus; Fluorine ion)
Threshold limit algae 2	249 mg/l (96 h; Scenedesmus quadricauda; Fluorine ion)
hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)	
LC50 fish 1	> 10 mg/l (96 h; Brachydanio rerio)
Threshold limit algae 1	10 mg/l (96 h; Scenedesmus quadricauda; Cell numbers)
phosphoric acid (7664-38-2) (7664-38-2)	
LC50 fish 1	138 mg/l (96 h; Pisces; Pure substance)
LC50 other aquatic organisms 1	240 mg/l (96 h; Protozoa; Pure substance)
LC50 fish 2	100 - 1000 mg/l (Pisces; Pure substance)
LC50 other aquatic organisms 2	100 - 1000 mg/l (Pure substance)
TLM fish 1	138 ppm (24 h; Gambusia affinis; Pure substance)
Threshold limit other aquatic organisms 1	240 mg/l (96 h; Protozoa; Pure substance)
Threshold limit other aquatic organisms 2	100 - 1000, Pure substance

12.2. Persistence and degradability

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Persistence and degradability	Not established.
Proprietary	
Persistence and degradability	Not established.
hydrogen fluoride, anhydrous (7664-39-3)	
Persistence and degradability	Biodegradability: not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)	
Persistence and degradability	Biodegradability: not applicable. Reacts with water: release of toxic/harmful substances. No (test) data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

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phosphoric acid (7664-38-2) (7664-38-2)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Defluorinated Phosphoric Acid 68% Feed Grade	
Bioaccumulative potential	Not established.
Proprietary	
Bioaccumulative potential	Not established.
hydrogen fluoride, anhydrous (7664-39-3)	
Log Pow	-1.4 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)	
Bioaccumulative potential	Not bioaccumulative. Not established.
phosphoric acid (7664-38-2) (7664-38-2)	
Log Pow	-0.77 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.
GWPmix comment : No known effects from this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ...
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1805 Phosphoric acid solution, 8, III
UN-No.(DOT) : UN1805
Proper Shipping Name (DOT) : Phosphoric acid solution
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 8 - Corrosive



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DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Special Provisions (49 CFR 172.102)	: A7 - Steel packagings must be corrosion-resistant or have protection against corrosion. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Other information	: No supplementary information available.

TDG

Not applicable

Transport by sea

Transport document description (IMDG)	: UN 1805 PHOSPHORIC ACID SOLUTION, 8, III
UN-No. (IMDG)	: 1805
Proper Shipping Name (IMDG)	: PHOSPHORIC ACID SOLUTION
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

Air transport

Transport document description (IATA)	: UN 1805 Phosphoric acid, solution, 8, III
UN-No. (IATA)	: 1805
Proper Shipping Name (IATA)	: Phosphoric acid, solution
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

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Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ	5000 lb
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Proprietary	CAS No	%
hydrogen fluoride, anhydrous	CAS No 7664-39-3	%

phosphoric acid (7664-38-2) (7664-38-2)

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

Proprietary

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

phosphoric acid (7664-38-2) (7664-38-2)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information : None.

Full text of H-statements:

H290	May be corrosive to metals
H300	Fatal if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled

SDS US (GHS HazCom 2012)

Disclaimer: This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.